

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 October 2004 (07.10.2004)

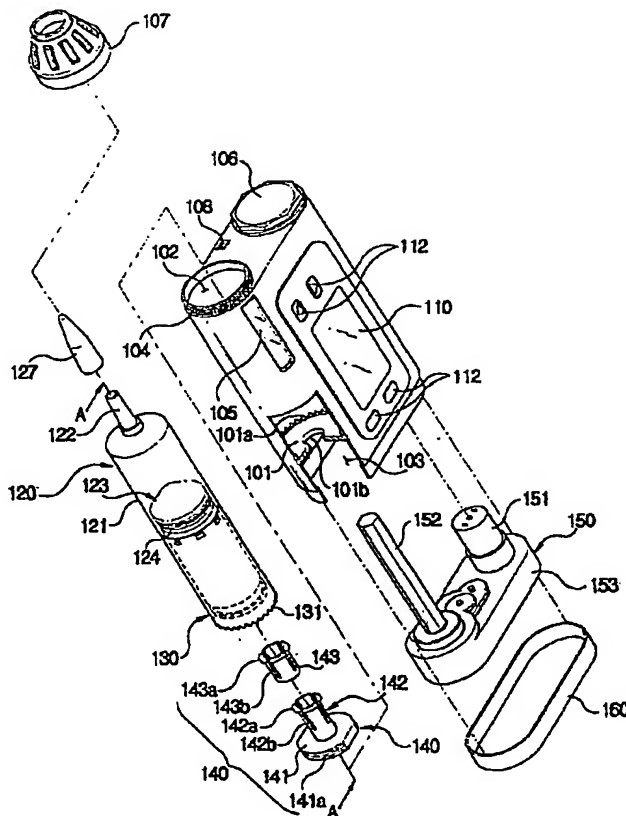
PCT

(10) International Publication Number
WO 2004/084976 A1

- (51) International Patent Classification⁷: **A61M 5/20**, 5/178
- (21) International Application Number: PCT/KR2004/000662
- (22) International Filing Date: 25 March 2004 (25.03.2004)
- (25) Filing Language: Korean
- (26) Publication Language: English
- (30) Priority Data:
10-2003-0019117 27 March 2003 (27.03.2003) KR
- (71) Applicants (for all designated States except US): **ENTER TECH CO., LTD** [KR/KR]; 401-5 Bunji, Hwagok-dong, Gangseo-gu., Seoul 157-887 (KR). **LEE, Kyung-Ho** [KR/KR]; #302-1305, Mok Dong Sinsigaji Apt., 903, Mok-dong, Yangcheon-gu., Seoul 158-050 (KR).
- (72) Inventors; and
(75) Inventors/Applicants (for US only): **JAN, Kil-Wan** [KR/KR]; #102-903, Hanggang SSangyong Apt 150, Bon-dong, Dongjak-gu, Seoul 156-812 (KR). **NAM, Young-Taeg** [KR/KR]; #402, Dong Yang Billa Gadong, 135-7, Ohjeong-dong, Ohjeong-gu, Bucheon City., Kyunggi-do 421-814 (KR). **MOON, Chi-Hwan** [KR/KR]; 912-5, Jakjeon-dong, Gyeyang-gu., Incheon Metropolitan City 407-825 (KR).
- (74) Agent: **KIM, Young-Chul**; 5F Nam Chang Bldg, 748-16 yoksam-dong, Kangnam-gu, Seoul 135-080 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,

[Continued on next page]

(54) Title: INSULIN PUMP



(57) Abstract: The present relates to an automatic insulin pump, which allows the rotary shaft only to rotate piston advancing means to remove vertical load applied to a rotary shaft, thereby improving durability thereof. The insulin pump includes: an injector having a syringe for containing insulin therein, and a piston inserted into the rear end of the syringe for providing the syringe with insulin discharge pressure; a housing having an injector receiving space formed in an appropriate position thereof, the injector receiving space having a partition wall formed at the rear end thereof; a rotary shaft having a non-circular section and a predetermined length; power supply means for rotating the rotary shaft at a predetermined speed; a push plate assembly for providing the piston with ahead power by pushing the piston, the push plate assembly having a disk part having a male screw formed on the outer circumferential surface thereof and a coupling hole axially coupled with the rotary shaft at the central portion thereof to allow for forward and backward movement of the rotary shaft, which passes through the coupling hole; and a hollow cylindrical type push plate case inserted into the injector receiving space of the rear end of the syringe, for the piston to pass therethrough, the push plate case having a female screw formed on the inner circumferential surface thereof to be coupled with the male screw of the disk part for allowing the disk part to carry out a spirally forward and backward movement.



PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

- (84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report*

- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.